

19. The cavity of the tympanum full of bands of adhesions	.	1
20. Membranous bands containing scrofulous matter	.	3
21. The cavity of the tympanum full of calcareous concretion	.	4
22. Ditto, full of caseous concretion	.	2
23. With ridges of bone projecting from the surface of the promontory	.	2

Dissections illustrative of the third stage of inflammation.

1. With ulceration and thickening of the mucous membrane, attended by the formation of pus	.	3
2. With ulceration of the membrane, and loss of one or more of the ossicula	.	3

It thus appears that of the 120 dissections there were—

- 20 Specimens in the first stage of inflammation of the tympanic cavity,
- 65 Ditto in the second stage,
- 6 Ditto in the third,
- 29 Ditto in a healthy state.

OPHTHALMOLOGY.

38. *Glaucoma*.—The following remarks by Dr. MACKENZIE, relative to this very imperfectly understood disease, will be read with interest. The author is one of the most judicious and learned ophthalmic surgeons in Europe, and his views are entitled to a respectful consideration. We cannot, however, but entertain the persuasion, that Dr. M. has grouped together under the term glaucoma, several affections not necessarily connected, and which it would be better to consider separately.

"Glaucoma is so called from the greenish appearance which it presents behind the pupil. It is a reflection of the light which has entered the eye, by the central and posterior laminæ of the crystalline lens, arising from these laminæ having lost their natural colour and consistence, and acquired an amber or reddish-brown hue, with an abnormal degree of hardness and dryness.

"The history of pathology sufficiently shows that dissection is the only way of discovering the nature of such diseases as cataract or glaucoma. If a cataractous lens is extracted from the eye of a person of 50 or 60 years of age, its superficial laminæ are found to be of an opaque whitish appearance, like half-boiled white of egg, while the rest of the lens is of an amber colour, and rather less opaque than the surface. If a glaucomatous lens is extracted, its superficial laminæ are found to be comparatively transparent, and the departure from the normal state to affect chiefly its central portion. Viewed entire, by transmitted light, it appears more or less amber-coloured throughout. Divided by a section perpendicular to its surfaces, the kernel, and laminæ immediately behind the kernel, are found to be of a reddish-brown colour, in a considerable degree opaque, hard, and drier than the superficial laminæ. The lens, so changed, appeared white in the eye, and viewed therefore by reflected light, to be of a muddy-green colour, but this was in a great measure an optical deception; for, taken out of the eye, all greenness is gone, both within the eye deprived of its crystalline, and in the lens under examination. The lens, then, in glaucoma, is in a certain sense dichromatic, like a bit of gold-leaf; only that the latter viewed by reflected light is yellow, and green when viewed by transmitted light, whereas the glaucomatous crystalline is the reverse—green when seen within the eye by reflected light, and amber-coloured when seen by transmitted light out of the eye.

"In its advanced stages, the disease styled glaucoma involves many other textures of the eye besides the lens, so much so, that Dr. Hays, the American

editor of Mr. Lawrence's Treatise on the Eye, remarks, that 'glaucoma cannot, strictly speaking, be considered as a disease; the term being applied to a group of symptoms which result from several and very distinct pathological conditions.' I cannot see, however, that glaucoma is more objectionable in this respect than hundreds of other nosological terms. In an early stage, glaucoma is often limited to the lens, as it was in Shaw's left eye; or to the retina and lens, as it was in his right eye. It is sometimes the case, as in this individual, that the disease may continue for a number of years, without absolutely destroying vision, or becoming altogether irremediable.

"The case of Shaw confirms two statements which I made respecting glaucoma in 1830; the one, that if the lens is removed by operation, the green appearance behind the pupil is lost; and the other, that the removal of a glaucomatous lens improves the vision of the patient, unless, indeed, he be amaurotic.*

"The term *glaucoma* comprehends a series of morbid changes, which in general develops itself slowly, in the course of years, and involves at last all the structures of the eye. I say 'in general,' for there is an *acute glaucoma*, in which many of the symptoms of the chronic variety are manifested often in a single night's time. The earliest and least important appearance of *chronic glaucoma* is merely a greenish hue, reflected from behind the pupil in the eyes of old people, but which is not necessarily connected with any material deterioration of vision, as is shown by the liveliness of the iris and the sensibility of the retina. A muddy-green colour of the crystalline marks the *second stage*, as in Shaw; and along with this there is sluggishness of the pupil, and more or less obscurity of vision. The consistence of the eyeball is natural. This stage may last for five or six years, or more, vision declining by insensible degrees all the time. An unnatural hardness of the eye, with dilatation of the pupil, a varicose state of the external blood-vessels, and a still more marked loss of sight, are the signs of the *third stage*. In the *fourth*, the crystalline becomes cataractous as well as glaucomatous, opaque, that is to say, on its surface, as well as in its nucleus; it is also augmented in thickness, and pressed through the pupil, till at length it touches the cornea; the sclerotica is thinned, so as to allow the choroid to shine through it, and vision is totally extinguished. In the *fifth stage*, the cornea, pressed upon by the hypertrophied lens, inflames and gives way by ulceration, the lens escapes, and the internal vessels of the eye burst, and bleed through the ruptured cornea. A *sixth stage* presents the eye shrunk and atrophic.

"These different stages of glaucoma run insensibly into each other. Although the disease is scarcely at any period of its course under the control of medical treatment, it is frequently arrested spontaneously in one or other of these stages, and makes no farther progress. In Shaw, it stopped, as it often does, in the second stage; the amber-coloured degeneration proceeding gradually towards the surface of the lens, but the other textures of the eye not becoming involved.

"In the first and second stages, glaucoma is generally a disease of the crystalline alone. I say 'generally,' for sometimes amaurosis accompanies glaucoma from the very commencement. In its advanced stages, it presents symptoms depending on certain morbid conditions of almost all the textures of the eye. The elements, in which glaucoma consists, when far advanced, reside in the lens, the vitreous humour, the retina, the choroid, the iris, the sclerotica, the blood-vessels of the eye, and even in the cornea. The order in which these different parts become affected is not invariably the same, nor the proportions in which they take part in this complex disease.

"It is only in the early stages of glaucoma that the catoptrical examination of the eye is of importance. In the first stage, both the deep erect image formed by the anterior capsule of the lens, and the inverted image formed by the posterior capsule, are distinct. Both the images are rather larger than in the healthy eye, and both of them are of a yellowish hue. In the second and third stages the erect image is still larger than it was in its first stage, but its outline is indistinct, so that it appears as a diffused blaze. In the second and third stages,

* Glasgow Medical Journal, vol. iii. p. 266. Glasgow, 1830.

the inverted image is seen for a time, if, by moving the candle to one or other side, it is formed near the edge of the lens, but it appears less and less distinct as it is made to approach the centre of the pupil. At last, as the disease advances, it disappears entirely.

"The second stage of glaucoma is the only one in which the removal of the lens is a practice which can be defended. The pale muddy-green opacity behind the pupil, more deeply seated than the opacity in ordinary cataract; so that, owing to the transparency of the superficial laminae of the lens, the iris throws a broader shadow on the opacity than when the surface of the lens is affected; the consistence of the eyeball natural; the iris healthy in texture; the pupil not dilated; no inverted image, while the deep erect image forms a large yellow blaze; vision such as accompanies lenticular cataract; the progress of the disease much slower than that of lenticular cataract, occupying perhaps five or six years, whereas the formation of common cataract is generally effected within as many months: these are circumstances which enable us to pronounce the disease to be lenticular glaucoma in the second stage, and vision likely to be restored by the removal of the lens. This is an important fact, because practitioners are apt to conclude, when they see a green opacity behind the pupil, that the case is one of amaurosis, as well as of change in the refracting media of the eye. Hence patients are left as incurable, to whom the removal of the glaucomatous lens might restore vision. In the cases in question, a careful examination shows that vision is not extinguished, but that the eye retains nearly the same degree of sight as does a cataractous eye; the eyeball is not hard and stony to the feeling, as it is in the third stage, when, to a glaucomatous state of the lens, there is added a dissolution and an accumulation of vitreous humour; the sclerotic is not thinned, so as to allow the choroid to shine through; nor are the external vessels of the eye enlarged and varicose, as in the advanced and hopeless stages of the disease.

"It sometimes happens, however, that incomplete amaurosis attends the second stage of glaucoma, as in Shaw's right eye, and then the operation proves fruitless.

"In the third stage of glaucoma, the hope of doing any good by an operation is gone; and from the dissolved state of the vitreous humour and varicose condition of the vessels, there is much risk in attempting such a thing.

"I have already hinted that the different elements of glaucoma do not present themselves in the same invariable order. The retinal, or amaurotic element, for example, is often the first to attract notice. Weller thinks that it is always the first in the series of morbid changes, for he says, 'Primum hujus morbi symptoma visus defectio est, pupillæ color subviridis multo serius demum animadvertisitur.'* But I believe it were more conformable to the fact to say, that in such instances as Weller has taken for the ground of this remark, an amaurotic eye has become glaucomatous, than that the group of symptoms which constitute glaucoma has originated in the retina.

"Amaurosis so generally attends the advanced stages of glaucoma, that it has been presumed always, and in all stages, to do so. Mr. Wardrop even goes the length of calling glaucoma a species of amaurosis. 'In some cases,' says he, 'the vitreous humour acquires a dull greenish colour, accompanied with insensibility of the retina, a species of amaurosis which has generally been called glaucoma.'† Shaw's case shows the erroneousness of this view; his left eye was affected with distinct glaucoma, advanced into the second stage, yet the retina proved perfectly sensible.

"It is scarcely necessary to remark, that the notion of glaucoma being an opacity of the vitreous humour is incorrect.

"In its advanced stages, glaucoma is attended by dissolution of the hyaloid membrane. An inordinate quantity of vitreous fluid renders the eye preternaturally hard to the touch, and by pressure causes pain, photopsia, and destruction of

* *Icones Ophthalmologicae*, p. 22. Lipsiae, 1824.

† *Morbid Anatomy of the Human Eye*, vol. ii. p. 127. London, 1818.

vision. If the pressure is taken off, by puncturing the vitreous humour through the sclerotica, or even by evacuating the aqueous humour through a small opening in the cornea, a transient amelioration of vision, as well as relief from the pain, is sometimes the result. But the aqueous humour, or the fluid which fills the place of the vitreous humour, being speedily regenerated, the pressure returns with its former effects.

"The primary cause of glaucoma, from whence the whole series of symptoms springs, is unknown. Beer supposed it to be arthritic inflammation; Taylor a preternatural viscosity of the blood, and a cessation of the circulation through the vessels of the crystalline.

"Taylor's notions regarding the seat and nature of glaucoma were much more correct than those of Brisseau, which so long prevailed. He understood it to be a diseased alteration of the crystalline, implicating its colour, transparency, and consistence, and ultimately combining with dilated pupil and amaurosis. He erred in supposing the capsule to be affected. His practice was to depress the lens and capsule, under the circumstances which I have enumerated as characterizing the second stage, or, to use his own words, 'where the iris, and immediate organ of sight, maintain their healthful state.'*

"Operating, then, for the cure of glaucoma is not a new practice. Of late it has been revived in France by Dr. Sichel, who styles the second stage of glaucoma, as above described, *cataracte lenticulaire verte opérable*.†

"It is necessary to be aware, that a glaucomatous eye is always very susceptible of suffering inflammation and disorganization, even from the slightest operation which may be practised upon it. Arthritic inflammation, with severe and long-continued pain, closure of the pupil, and total insensibility of the retina, is exceedingly apt to be the result of the displacement of a glaucomatous lens; while the operation of extraction exposes the eye almost as much to the danger of complete suppuration. Hence the propriety of having recourse rather to the operation of comminuting the centre of the anterior capsule by means of a fine curved needle passed through the sclerotica, and afterwards repeating a cautious division of the lens every six weeks till it is entirely absorbed. A cataractous eye is generally perfectly healthy, except that the lens, and especially its surface, has become opaque, but in every texture of a glaucomatous eye there is a lurking tendency to disease, against which we cannot be too much on our guard."—*London Med. Gaz.*, Oct. 1843.

39. Muscæ Volitantes.—Dr. JAMES STARK, of Edinburgh, has investigated the causes and phenomena of muscæ volitantes, with considerable care, and he conceives that the observations he has made seem to prove that muscæ are nothing else than the globules of mucus which lubricate the external or mucous surface of the transparent cornea. "These globules are," he remarks, "only rendered visible when the retina, or expansion of the visual nerve, is in an irritable state; and that it is so in all those cases in which this phenomenon is observed, is well known to every medical practitioner. It is, besides, a matter of common observation that the eye labouring under this malady feels uneasy and heated, and is unusually dry. This state would, therefore, render the mucous secretion more viscous than usual, so that the globules of mucus, instead of floating freely over the eye, would be wiped by the eyelid, and motion of the eyeball on the lid, into irregular wavy or zigzag lines or reticulations, and give rise to that appearance so often described as a net-work or cobweb before the eyes, (*visus reticulatus*.) The irritability of the retina is known to be induced by a great many causes. Two opposite states of the circulation will increase its irritability, viz. that of congestion from an overflow of blood to the part, or semi-stagnation of the circulating fluid in its vessels from want of tonic power to propel it. This is the reason why *muscæ volitantes* are not only seen in almost all affections of the retina, as in incipient amaurosis, retinitis, &c., but are also

* Treatise on the Diseases of the Crystalline Humour, p. 31. London, 1736.

† Annales d'Oculistique, tome v. p. 233. Bruxelles, 1841.

of very common occurrence in all dyspeptic complaints, the low stages of fever, &c. It is the circumstance of this malady generally attending the first stage of amaurosis,—a disease commonly leading to the loss of sight, which has made their occurrence be so much dreaded by all. It is the circumstance of so many practitioners confounding these moving muscæ with the fixed specks which depend on organic changes in the eye, (whether these arise from partial opacities in the humours, or their enveloping membranes, or depend on certain spots of the retina having lost their sensibility,) which has so often led them astray as to the cause of their production, and induced them to regard their presence as an indication of the existence of some serious disease of the eye.

"By attending to the characters laid down above, no doubt can ever arise as to the true nature of the bodies which are met with in the eye, and disturb vision. Where *muscæ volitantes* are found uncomplicated with fixed specks, nebulæ, or indistinct troubled vision, we can always satisfy the patient as to the innocuousness of the malady under which he labours, and free his mind from any anxiety as to his losing his sight. The diagnosis of the malady, then, is of no mean importance in practice; for though the complaint is of itself simply annoying and unattended with danger to the sight, it is so often also an attendant on those affections which lead to the destruction of vision, that every means ought to be used to discover its true nature. If, with the moving harmless muscæ, threads, lines, reticulations, or showers of fire, there be fixed specks in the eye, deep-seated pain, clouded or mottled vision, and the other more ordinary symptoms of amaurosis or affection of the retina, it is high time that the most active remedies be employed, as the total loss of vision is threatened. But if these are wanting, and it be ascertained that the muscæ exist alone, general treatment is all that is usually required to restore the vision to its accustomed clearness. It is worthy of remark, however, that when once *muscæ volitantes* have appeared in the eye, they are scarcely ever got entirely rid of. Whether this depends on the eye becoming morbidly sensible to the globules of mucus moving over its corneal surface, or to the person attending more to the presence of such bodies and looking for them, or that the system once thrown into the condition which favours the appearance of these muscæ, is easily affected in a similar manner, has not yet been accurately ascertained. Certain it is that, in the eyes of those once affected with muscæ, even a trifling cause will produce their reappearance. A fit of indigestion, derangement of the bowels, overstraining of the eyes, &c. will, again and again, cause the reappearance of these troublesome visitors, and from these causes they may be seen at intervals, during the whole course of a long life, without permanently injuring vision.—*Ed. Med. and Surg. Journ.*, Oct., 1843.

40. *Propriety of operating in cases of Cataract, where only one eye is affected.*—Mr. NUNNELEY, of Leeds, has discussed this subject in a paper read before the *Prov. Med. & Surg. Association*, and published in the *Provincial Journal* (2 Sept., 1843). Mr. N. conceives that the propriety of operating, or not, must be mainly determined by "the state of vision after the operation," for he remarks, "I suppose, although it be granted a person sees sufficiently well with one eye, no one will deny, that *cæteris paribus*, two eyes are better than one; and from the well known fact that when the functions of any organ or structure is long suspended, the power of exercising the function becomes ultimately lost, it is, as a mere result of precaution, extremely important to keep the affected eye in such a state of activity, that in case any accident or disease happen to the other, its powers, even though somewhat impaired, may then be taken advantage of; which can only be safely and effectually secured by having removed the opaque crystalline lens, and permitted the light to keep up the activity of the retina. The fear of the sound eye being injured or lost by the operation upon the cataractic one, though possible, is, I consider, hardly deserving of notice; because, when the operation is properly performed, it must be so rare, as to be rather amongst the possibilities than the probabilities. While, on the other hand, the sympathy between the two eyes, not only in their healthy state, but in

their morbid condition, is so strong, that those who have been accustomed to watch ophthalmic affections will at once admit the validity of the argument of removing any diseased condition of one eye lest the other also partake of it, for the singularity is, that when disease exists in one eye, not only is the other apt to become impaired, but for the corresponding structure to assume the very same morbid condition. Thus, if the conjunctiva in one eye is affected, that of the other is also very apt to assume the same diseased action; if the cornea, the cornea; if the iris, the iris; the lens, the lens; and so on; while it is also incontrovertible that the morbid condition of the eye primarily affected being removed, that of the one sympathetically or secondarily involved is also frequently remedied. Indeed, cases are on record where cataract having been removed one eye, commencing cataract, or even amaurosis, in the other has been cured; and there must have been many, if not identical, at least analogous, instances. Indeed, in some cases where I have operated upon an eye in which cataract was fully formed, being only in an incipient state in the other, I have strongly suspected the progress of this latter has been much delayed by the removal of the opaque lens of the opposite eye.

"Now, although every one may not be inclined to think the remote risk of the sound eye being lost from injury or accidental affection very great, nor the danger of sympathetic disease so imminent as to justify our incurring any immediate hazard to it by operative interference with the affected eye, yet no person will deny, that if in reality there is no such danger to the sound eye by operating upon the affected one, the possibility of these remote contingencies are solid arguments in favour of active measures being at once resorted to. The last argument, of confusedness of vision being the result of an operation, is so very plausible, and, indeed, imposing, that it is this which has, I presume, principally determined the general practice of not interfering when only one eye is affected, and which, I confess, formerly decided my practice; for I have sent many persons away without doing any thing which, with what I have since seen, especially in the three cases to which I shall now shortly allude, I should certainly not do. Indeed, the fact itself that traumatic cataract sometimes disappears, as mentioned by Pott and Hey, as an argument against operating, is, in reality, a strong argument in favour of it; for, if not in all, at least in such of those cases where traumatic cataract disappears, the capsule of the lens has been ruptured, and subsequently has been absorbed, thus occurring what it is the object of an operation to accomplish; yet in these cases no mention is made of inconveniences resulting from the cure; and when the lens had been so displaced as to press upon the iris, every body agrees as to the necessity of manual interference, lest not only the one eye be altogether lost, but the other be implicated in the change."

Mr. N. relates three cases to show that "in point of fact, the double confusedness of vision, so much feared, does not occur," and concludes, that "considering, on the one hand, the ease with which the operation may be performed; the little or no disturbance produced, either to the other eye or general health; that in many cases of traumatic cataract, where the capsule is ruptured, the lens is ultimately removed, even when the surgeon does not interfere; and that what has been so much feared, and in my opinion constituted the only valid argument against the operation, the difference in the refractive powers of the two eyes producing confused or double vision, in reality does not occur; and considering, on the other hand, the arguments above-mentioned in favour of operating, I think we are fairly justified in recommending that, not only in traumatic, but in all cases where a young person, one who is under middle age, has cataract in one eye, the lens should be broken up, and removed by absorption."

41. *Wound of the Cornea by the Sting of a Bee.*—Dr. KRIEG of Merseburg, was consulted in the summer of 1839, by a man sixty years of age, and of good constitution, for an inflammation of his left eye. Five weeks previously a bee had stung him in the centre of the cornea, giving rise to extremely painful inflammation there. The medical attendant at the time professed to have ex-

tracted the sting, but no means which he afterwards used were capable of subduing the morbid excitement of the organ. When Dr. Kreig saw the patient the conjunctiva was greatly hypertrophied and the cornea covered with a dense opaque layer of membrane. There was every reason to believe that the internal structures, also, fully participated in the diseased process. On closely examining the eye with a magnifying glass, a dark and slightly prominent spot was discovered in the centre of the cornea, around which much vascular injection was perceptible, and from this spot Dr. Kreig extracted a long filiform body, the remaining part of the sting. The inflammation soon began to subside, and in a month the cornea had partially recovered its transparency, but some striking results became permanent in consequence of the injury. The tint of the iris had changed from its natural grayish blue to a perfect blue, the pupil remained dilated and immovable on the stimulus of light, and the patient, who before his accident was obliged to use convex glasses, now required one concave, being near-sighted, on the left side.—*Gaz. des Hôpitaux*, 27th June, 1843, from *Casper's Wochenschrift*.

MIDWIFERY.

42. *Bilocular Uterus and cleft Vagina*.—A woman 30 years of age, pregnant, applied for admission into a lying-in charity in Vienna. Externally she was well-shaped and appeared robust; but on making examination, the vagina, at the depth of about two inches, was found divided into a double passage by a dense fibrous septum stretching across it. The posterior chamber was penetrable by the finger for about an inch and a half higher, when it was found to end in a small blind sac. The anterior passage of the vagina was so long that the os uteri could not be reached by the finger; the foetus accordingly lay very high in the pelvis. The birth was at first lingering, but in the progress of the labour the septum in the vagina spontaneously ruptured, with little loss of blood; the liquor amnii was immediately discharged, and in a short time afterwards a living child was safely expelled. The mother, however, died of peritonitis four days afterwards, and on opening the body the cavity of the uterus, as far as the os internum, was seen to be separated into two chambers by a vertical septum. The foetus had lodged in the left of these divisions, but the right cavity had also been dilated and lined with decidua during the pregnancy.—*Lancet*, Nov. 11, 1843, from *Oest. Wochensch.* Sept. 9.

43. *Vaginal pregnancy*.—One of the German journals reports a case of extra-uterine gestation in which the foetus was developed in the vagina. A circumscribed enlargement was apparent between the navel and the pubis, and the bowels and bladder were evacuated with much difficulty. A practitioner appears to have been first called in at about the fourth month (*die Geburt schon bis zur vierten period vorg. war*), who found the foetus in a cross position and dead. He immediately proceeded to delivery by the feet, and after much difficulty brought the shoulders through the vulva, and afterwards extracted the head with the forceps. The circumscribed tumour was yet unreduced, and on examination this was found to be due to the uterus itself. That organ was retroverted, its orifice being directed forwards to the abdominal integuments, and closely embracing the cord. The accoucheur contrived, however, to introduce some of his fingers within the os tincæ and remove the placenta, which is said to have been adherent to the neck, and, indeed, to all the rest of the internal surface of the uterus. The woman recovered satisfactorily. We know of only one other recorded case of this very rare kind of extra-uterine gestation; it is detailed in the “*Journ. de Med.*,” &c., of Paris, 1779. The latter case terminated unfavourably to the mother.—*Ibid.*

44. *Polypus Uteri*.—Dr. P. MURPHY, of Liverpool, in an article in the *Provincial Med. Journal*, (Sept. 23, 1843,) states that he has treated seven cases of